

Application No. 09/836,834
Amendment "A" dated May 2005
Reply to Office Action mailed March 30, 2005

AMENDMENTS TO THE CLAIMS

The listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1-7. (Cancelled).

8. (Currently Amended) In a variable delay network that includes a transmitter and a receiver, a transmitter application associated with the transmitter configured to transmit a stream of multimedia packets through a transmitter link layer controller, over the variable delay network, through a receiver link layer controller to a receiver application associated with the receiver, the transmitter link layer controller having an undedicated variable delay interface with the transmitter application, the transmitter link layer controller and the receiver link layer controller being substantially synchronized in accordance with a common network time base, a method of the transmitter link layer controller emulating a constant delay network over the variable delay network despite the undedicated variable delay interface, the method comprising the following:

receiving a first multimedia packet from the transmitter application, the first multimedia packet including a first transmitter application time stamp, which represents the relative time that the information in the first multimedia packet should be rendered by the receiver application in accordance with a transmitter application time base;

including in the first multimedia packet a first network time stamp, which represents the relative time that the information in the first multimedia packet should be rendered by the receiver application in accordance with the common network time base;

receiving data representing a frequency of the transmitter application time base;

receiving a second multimedia packet from the transmitter application, the second multimedia packet including a second transmitter application time stamp, which represents the relative time that the information in the second multimedia packet should be rendered by the receiver application in accordance with the transmitter application time base;

calculating a second network time stamp representing the relative time that the information in the second multimedia packet should be rendered by the receiver

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application in accordance with the common network time base, wherein the calculation includes adding to the first network time stamp, a difference between the second transmitter application time stamp and the first transmitter application time stamp to create a sum that is multiplied by the received frequency of the transmitter application time base ~~based on the first transmitter application time stamp, the second transmitter application time stamp, the frequency, and the first network time stamp;~~

including the second network time stamp in the second multimedia packet; and
dispatching the second multimedia packet to the receiver application.

9. (Original) A method in accordance with Claim 8, where the variable delay network is an IEEE 1394 compliant network, the transmitter link layer controller comprises an OHCI link layer controller, and the undedicated variable delay interface comprises a PCI interface.

10. (Original) A method in accordance with Claim 8, wherein including the second network time stamp in the second multimedia packet is performed in accordance with the IEC 61883 protocol.

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11. (Currently Amended) A computer program product for use in a variable delay network that includes a transmitter and a receiver, a transmitter application associated with the transmitter configured to transmit a stream of multimedia packets through a transmitter link layer controller, over the variable delay network, through a receiver link layer controller to a receiver application associated with the receiver, the transmitter link layer controller having an undedicated variable delay interface with the transmitter application, the transmitter link layer controller and the receiver link layer controller being substantially synchronized in accordance with a common network time base, the computer program product for implementing a method of the transmitter link layer controller emulating a constant delay network over the variable delay network despite the undedicated variable delay interface, the computer program product comprising computer-readable medium having stored thereon computer-executable instructions that, when executed by one or more processor, cause the transmitter link layer controller to perform the following:

detecting the receipt of a first multimedia packet from the transmitter application, the first multimedia packet including a first transmitter application time stamp, which represents the relative time that the information in the first multimedia packet should be rendered by the receiver application in accordance with a transmitter application time base;

including in the first multimedia packet a first network time stamp, which represents the relative time that the information in the first multimedia packet should be rendered by the receiver application in accordance with the common network time base;

detecting the receipt of data representing a frequency of the transmitter application time base;

detecting the receipt of a second multimedia packet from the transmitter application, the second multimedia packet including a second transmitter application time stamp, which represents the relative time that the information in the second multimedia packet should be rendered by the receiver application in accordance with the transmitter application time base;

calculating a second network time stamp representing the relative time that the information in the second multimedia packet should be rendered by the receiver application in accordance with the common network time base, wherein the calculation

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includes adding to the first network time stamp, a difference between the second transmitter application time stamp and the first transmitter application time stamp to create a sum that is multiplied by the received frequency of the transmitter application time base based on the first transmitter application time stamp, the second transmitter application time stamp, the frequency, and the first network time stamp;

including the second network time stamp in the second multimedia packet; and
causing the second multimedia packet to be dispatched to the receiver application.

12. (Original) A computer program product in accordance with Claim 11, wherein the computer-readable medium is one or more physical storage media.

13. (Original) A computer program product in accordance with Claim 11, wherein the variable delay network is an IEEE 1394 compliant network, the transmitter link layer controller comprises an OHCI link layer controller, and the undedicated variable delay interface comprises a PCI interface.

14. (Original) A computer program product in accordance with Claim 11, wherein the computer-executable instructions for including the second network time stamp in the second multimedia packet is executed in accordance with the IEC 61883-x protocol.

15. (Cancelled).